ABSTRACT

A solar energy concentrating collector having a frame with bottom , end and side panels of corrugated paperboard material adapted to include secondary side panels that are folded inward and have vertical slots for containment of parabolic supports for a flexible reflective surface placed on top of the supports. Frame and folded side panel construction permit machine or manual folding and assembly. Frame end panels have apertures located on the parabolic focal line for connection of fluid conduits outside the frame. For arrangement in solar collector arrays, conduit apertures in end-to-end mounted collectors are aligned to receive a common absorber pipe that extends through and beyond a plurality of collector frames for external 180 degree connections to conduits in the

next adjacent parabolic reflective surface parallel to the first reflective surface in the same frame. Supports for the reflective surface have parabolic cutouts in the top portion and are processed as multiple side by side components in a corrugating machine. An odd numbar of collector apertures and reflective surfaces within each collector result in serial flow and inlet / outlet connections on opposite ends of the collector and in a collector array. With multiple units mounted end to end, each collector can be film overwrapped to reduce heat transfer to ambient air and protect internal components from moisture